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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,449	05/23/2001	Sung Han Kim	1514.1002	8882

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STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 11/06/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,449

Applicant(s)

KIM ET AL.

Examiner

Camie S Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 5-7, 15-17 and 22-24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3, 4 and 8-10 is/are allowed.
- 6) ☒ Claim(s) 11-14 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

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DETAILED ACTION

1. Applicant's election of the compound of formula 1 where Ar is anthracene is acknowledged. Therefore, claims 1-4, 8-14 and 18-21 will be examined. Claims 5-7, 15-17 and 22-24 are drawn to the non-elected species of formula 4. In addition, claims 11-24 are **not** generic because claims 11-14 and 18-21 read specifically on spirofluorene groups and claims 15-17 and 22-24 read specifically on triarylsilphenyl groups. Claim 8 is the only generic claim. Therefore, the election of species restriction is deemed proper and is made **FINAL**.

Priority

2. The priority is not perfected. A ribboned copy of the priority document must be submitted.

Claim Objections

3. Claim 2 is objected to because of the following informalities: Anthracene is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

5. Claims 12-14 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 12 and 19 are rendered indefinite because there is no definition or explanation of how the spirofluorene groups are perpendicular to one another.

Claims 13 and 20 is rendered indefinite because there is no definition of the spirofluorene groups and anthracene being distorted in the specification.

Claims 12-13 and 19-20 are subject to clarification.

Claims 14 and 21 are indefinite because it is unclear as to whether the t-butyl group is located on the aryl groups or the spirofluorene groups.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuder et al., U.S. Patent Number 5,763,636.

Kreuder discloses polymers containing spirofluorene units and aryl groups that can be used for electroluminescent display devices as per instant claims 11 and 18 (see abstract; column 3, lines 45-60; columns 6-9 and column 12, lines 55-68). In addition, the Kreuder reference discloses that the organic electroluminescence display device comprises a pair of electrodes and an organic layer formed between the pair of electrodes, the organic layer comprises material formed of an

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aryl group and spirofluorene groups as per instant claim 18 (see column 13, lines 33-58). The reference does specifically disclose that there are more than 1 spirofluorene group as per instant claims 11 and 18. The reference does disclose that the polymer spiro units are repeating units. Therefore, it would have been obvious to one of ordinary skill in the art to have more than one spirofluorene group because a plurality of spiro centers are particularly suitable as electroluminescence materials and improve the property profile of the devices as shown by the Kreuder reference in column 2, lines 22-29.

Allowable Subject Matter

8. Claims 1, 3-4 and 8-10 are allowed.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Cy H Kelly